



**US Army Corps
of Engineers®**

Lake Pontchartrain & Vicinity Teammate Update November 23, 2010



Mission

We are committed to achieving the 100-year level of risk reduction in 2011 for the people of Orleans and St. Bernard parishes by constructing the Hurricane and Storm Damage Risk Reduction System.

The program also includes completing the permanent canal closures and pumps, the Grand Isle flood risk management project, Plaquemines Parish risk reduction projects, storm proofing and repair of existing pump stations.



Executive Summary

Only six months remain before the start of the 2011 Hurricane Season and we still have some enormous mountains to move between now and then. We are focusing our construction efforts on finishing up the work in New Orleans East, St. Bernard Parish, and on the Inner Harbor Navigation Canal.

New Orleans East: Work includes the largest wick drain project in U.S. history. Work also includes the largest deep soil mixing project in the world. A Superdome's worth of clay (4.9 million cubic yards) will have to be moved and placed on levees. Things are on schedule and only weather can get in our way now. We are maximizing every good construction day we have and recently reached a milestone of delivering 50,000 tons of clay a day.

St. Bernard Parish: We are aggressively constructing the 23 miles of T-wall (nearly two miles per month). The construction of the two sector gates at Bayou Dupre and Caernarvon is under way. Work continues virtually non-stop, and under nearly every weather condition. The \$1.5 billion St. Bernard Wall is the largest component of the system and 50 Eiffel Towers worth of steel (including rebar, sheet piles and H-piles) are being used in the floodwall construction.

Inner Harbor Navigation Canal: The Lake Borgne Surge Barrier is the largest design-build civil works project in the history of the Corps, and the two-mile barrier wall was completed nearly two months ahead of schedule. The large sector gate on the Gulf Intracoastal Waterway, the barge gate on the Gulf Intracoastal Waterway and the lift gate at Bayou Bienvenue are currently under construction. Construction of the sector gate at Seabrook has also begun.

We do have more than 300 utility and facility relocations (like pipelines and powerlines) on the East Bank of the Mississippi River that have to be resolved so the system can be completed. We are working through all of these actions now so these small gaps and openings in the system can be closed before 1 June 2011.

The major "mountains" to move between now and 1 June include:

15 Mar - Complete the Coffey Dam and T-wall at Seabrook (IHNC-01, LPV 104.02, and LPV 104.02a)

15 Mar - Complete the Orleans Metro Levees and Floodwalls (LPV 101.02, LPV 103.01a2)

1 Apr - Float in the massive surge barrier barge gate

1 Apr - Complete the T-Wall along the Mississippi River Gulf Outlet (MRGO) (LPV 145, LPV 146 and LPV 148)

1 May - Install the large Bayou Bienvenue Gate on the surge barrier

1 May - Complete the large levee in the Bayou Sauvage National Wildlife Refuge (Orleans East) (LPV 109.02a, LPV 109.02b, LPV 110, LPV 111.01)

15 May - Complete the St. Bernard Parish Sector Gates (LPV 144 and LPV 149)

15 May - Complete the levees and floodwalls on the Orleans East Lakefront (LPV 105.01, LPV 105.02, LPV 106, LPV 107, LPV 108)

31 May - Complete back (south) side of St. Bernard Parish T-Walls (LPV 148)

31 May - Install the massive sector gates for the surge barrier

Plaquemines Parish: More than 130 miles of levees and floodwalls will be improved over the next four years. Due to the magnitude of this effort, we will continue to keep Parish leadership informed by means other than this update.

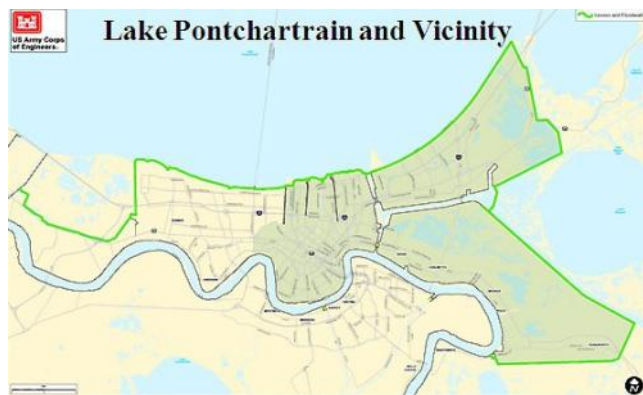
We are committed to ensuring that the Lake Pontchartrain and Vicinity system can handle a 100-year storm surge event in 2011, even if there is a storm in May. We will continue to wrap up projects through 2014.

Times-Picayune [Levee Officials consider double-checking Corps of Engineers work](#)

Times-Picayune [Corps says 100-year level of protection due June 1](#)

WVUE-TV [Making Waves](#)

Pipeline Crossing (LPV 145)



Updates from the New Orleans District - Protection & Restoration Office

1. St. Charles Parish \$100 M construction value

Approximately 30 percent of the 9.5 miles of St. Charles Parish's perimeter levees have been raised to the 100-year risk reduction elevation and the remainder is currently under construction. The final St. Charles Parish contract to be awarded is the 160-foot-long Shell Pipeline Floodwall; work is scheduled to begin on this contract in December 2010.

Floodwall construction at the Almeida and Walker Drainage Structures, as well as at Goodhope and Gulf South, is substantially



Bayou Trepagnier Discharge Pump

complete. Work continues at the Bayou Trepagnier Complex, Cross Bayou drainage structure, St. Rose drainage structure, I-310 floodwall, and at the Illinois Central Railroad

gate. At structures where the existing protection is being degraded for construction purposes, *Temporary Flood Protection* will be in place to match pre-existing elevations.

Currently, St. Charles Parish levee work is expected to be complete in spring 2011; structures and floodwalls are scheduled to be complete by June 2011.

2. Jefferson Parish \$500 M construction value

Approximately 99 percent of the 9.1 miles of Jefferson Parish's perimeter levees have been raised to the 100-year risk reduction elevation. All of the embankment work is complete; remaining work consists of turf establishment.

Construction continues along the five lakefront levee reaches. The final levee contract, which includes improvements to the levee adjacent to the Louis Armstrong New Orleans International Airport, was awarded in September 2010.

There are six structure contracts under construction. The breakwaters at Bonnabel and Duncan Pump Stations are substantially complete. In addition, the floodgates and floodwalls at Bonnabel and Williams Boulevard are substantially complete.

Fronting protection at the four East Jefferson lakefront pump stations began in April 2010 and is progressing well. The contract to reduce risk at the Causeway Boulevard peninsula was awarded in August 2010; however, construction was temporarily delayed due to a post-award protest. The stop work order was lifted in mid-October and work is under way.

The two contracts for replacement of the West Return Floodwall have been awarded. However, the contract for the southern portion of the West Return Floodwall is currently under a stop work order due to a post-award protest.

There are two contracts to provide wave attenuation and foreshore protection for a large portion of the Jefferson Parish levee system on Lake Pontchartrain; both contracts have been awarded.

Cross Bayou Drainage Structure
Cofferdam Installation



Suburban Pump Station

3. Orleans Metro (Main Supporting District - St. Louis) \$90 M - \$100 M construction value

The perimeter system is nearly 95 percent complete along the lakefront in Orleans Metro. Major construction of floodwalls and ramps between 17th Street and the Inner Harbor Navigation (Industrial) Canal continues.

Between 17th Street and Topaz (LPV 101.02), the contractor has driven 54 percent of H-pile and 59 percent of the sheet pile for the project. Approximately 62 percent of the footers and walls have been poured.

Between Orleans and London Avenues (LPV 103.01A2), the contractor has driven 34 percent of the H-pile and 50 percent of the sheet pile for the project. Construction of the ramps at Rail Street and Lake Terrace will be under way this month.

We recently reached the 100-year level of risk reduction at the Canal Street ramp (LPV 104.01A). The contractor has driven 40 of 60 total H-piles under the Seabrook Bridge (LPV 104.02).

Due to ongoing construction, the following road closures remain in place:

- *Franklin Avenue at Lakeshore Drive is scheduled to reopen by the end of November 2010;*
- *Lakeshore Drive at Camp Leroy Johnson Drive is scheduled to reopen by the end of November 2010;*
- *East and West Lakeshore Drive at Elysian Fields is scheduled to reopen by the end of November 2010;*
- *Lakeshore Drive at Rail Street will remain closed through April 2011.*

We do anticipate additional road closures; throughout the construction phase, we will continue to work with our partners at the City of New Orleans and Orleans Levee District to ensure public safety. If you have questions and / or concerns, please call our **Construction Impacts Hotline: 877-427-0345**.

WWL-TV [Action Report: Still no working bathrooms along the N.O. lakefront](#)

4. New Orleans East (Main Supporting District - Memphis) \$800 M - \$1 B construction value

West of the Lakefront Airport (LPV 105.01), the foundations for the two roller gate monoliths have been placed and 5 percent of the H-pile has been driven to date. Due to construction of this project, Downman Road north of Hayne Boulevard is closed. One lane in each direction of Downman Road is scheduled to reopen by the end of this month. East of the Lakefront Airport (LPV 105.02), the contractor has driven 31 percent of sheet pile, 19 percent of H-pile and completed 8 of 91 total T-wall monoliths.

Major construction on the Citrus Lakefront Levee (LPV 106) continues with sheet pile installation from Jahncke Pump Station to west of Lincoln Beach. The contractor has completed approximately 62 percent of the sheet piling that is required for the 100-year level of risk reduction.

LPV 104.01A - Canal Street Ramp



LPV 105.01 - Downman Road Floodgate

At Lincoln Beach (LPV 107), the contractor has driven 89 percent of the sheet pile, 90 percent of the concrete batter piles and completed 4 of 28 total monoliths.

From Paris Road to South Point (LPV 108), work is 99 percent complete. The contractor is cutting grass this week and continuing to repair ruts and place seed on bald spot areas. Once the seeding operation is complete, a final inspection will be scheduled.

Between South Point and the CSX Railroad crossing (LPV 109), the contractor has installed 98 percent of the wick drains, placed 96 percent of the stone and 33 percent of the clay embankment on all reaches.

Construction of the I-10 highway crossing is under way; due to construction of this project, we moved westbound I-10 traffic to a median detour. The detour will be in place until the project is complete. Construction of the gates at the US 11 and US 90 highway crossings will begin early next year.

Between the CSX Railroad crossing and Inner Harbor Navigation Canal Surge Barrier (LPV 111), work is progressing on all project features including Deep Soil Mixing (DSM), which is now more than 79 percent complete. Fifty-six percent of the clay embankment is now complete.

Last month, we continued our outreach efforts in New Orleans East. On 26 Oct., we held a public meeting at the St. Maria Goretti Church to update residents on the status of construction. Earlier in the month, we provided updates to the Mark Subdivision and North Kenilworth Homeowners Association.

WWL-TV [Action Report: Speeders worry Irish Bayou residents](#) | *Construction Impacts Hotline: 877-427-0345*

5. St. Bernard Parish (Main Supporting District - St. Paul) \$1 B - \$1.5 B construction value

Major construction on the Bayou Dupre Floodgate (LPV 144) is ongoing. The cofferdam has been dewatered and the gate, which is being fabricated near Norfolk, Va, is 35 percent complete.

Construction is progressing well between Bayou Bienvenue and Bayou Dupre (LPV 145). The contractor has completed 349 out of 608 total monoliths. More than 96 percent of the H-pile, 80 percent of the stability slabs, 56 percent of the wall footings and 59 percent of the stem walls have been completed.

Work also continues between Bayou Dupre and Highway 46 (LPV 146). There are a total of 8 cranes driving H-pile on this project; 44 percent of the footers have been completed, as well as 35 percent of the walls. The LPV 146 Project Thanksgiving Food Drive - spearheaded by the contractor, suppliers, vendors and the Corps - exceeded expectations and collected 34,024 pounds of food for the St. Bernard Food Pantry.

Construction of the Highway 46 floodgates (LPV 147) is well under way. The final traffic control phase for this project – Phase 3 – will begin on or around December 3 and remain in effect until construction is complete next spring. Phase 3 will require northbound traffic south of the floodgates to cross over to use the single inside southbound lane of the highway. Northbound traffic will cross back over to the northbound lanes just north of the floodgates.

Between Verret and Caernarvon (LPV 148.02), the contractor has placed about 23,317 feet of sheet pile and driven 1,108 H-piles. The contractor continues to place concrete for the stabilization slab, base slab and walls. The temporary access road is now complete and the permit to cross St. Mary's pump station with emergency vehicles and light trucks has been issued. The contractor will have up to 50 cranes on the reach when fully mobilized so that we can reach the 100-year level of risk reduction by June 2011.



Construction is under way at Caernarvon (LPV 149). The stability berm construction on the east side of Caernarvon Canal is complete and the concrete precast piles are also complete. The cofferdam excavation is under way and the dewatering will be complete by the end of this month. Installation of the T-wall sheet pile is approximately 70 percent complete. The first T-wall footing was placed on Nov. 1. Currently, the contractor has installed 50 percent of the H-pile at a production rate of 35 per day with three crews.

We are continuing our outreach efforts in St. Bernard Parish as well. Last month, we provided an update on the status of risk reduction projects during a lecture series at Nunez Community College.



LPV 149 - Caernarvon Floodwall Construction

We are developing an animation to illustrate the sequence of floodwall and floodgate construction in St. Bernard Parish. The animation will be posted on Team New Orleans' web site next month.

6. Inner Harbor Navigation Canal (Corps-wide Support)

a. Surge Barrier *\$1.3 B construction value*

The overall design of the structure is 97 percent complete. The maintenance bulkheads for the bypass are on site and ready to be placed in advance of an approaching storm.

At the Gulf Intracoastal Waterway (GIWW) sector gate, we have placed 10,300 cubic yards of tremie concrete, dewatered the cofferdam and placed all three leveling slabs. We have started pile clean out and plugging. Fabrication of the sector gates, which is being done by Shaw Global, is 44 percent complete.



GIWW Sector Gate Construction

At the Bayou Bienvenue vertical lift gate, the concrete sill placements are complete and two of nine total wall placements are complete.

Fabrication of the steel lift gate, which is also being done by Shaw Global, is 36 percent complete.

We removed and reinstalled 9 piles from our mooring dolphins and made tripping dolphins out of them



Bayou Bienvenue Gate Construction

to assist navigation. The rock dike at Seabrook has greatly reduced the flows at the GIWW sector gate. Both of the abovementioned actions should reduce the risk for navigation transiting the area. Due to the reduced flow and familiarity of the navigation industry with the gate, we will send the second push boat home at the end of the month. We will keep the Watchdog boat on hand to assist traffic until the guide walls are in place next year.

The RTCV meter is working and sending data confirming the lowered velocities in the barge gate.

b. Floodwall Remediation \$25 - \$50 M construction value

Currently, we are in the design phase of the restoration and reinforcement work for the interior walls along the Inner Harbor Navigation Canal and GIWW. Methods to restore and reinforce the interior walls would include deep soil mixing, relief wells, stability berms, buttress walls and concrete slabs.

The proposed action is fully described in Draft Individual Environmental [Report](#) Supplemental 11B Tier 2 Borgne. We held public meetings to discuss the proposed action and gather input from the public on Oct. 13 in Gentilly, Oct. 26 in New Orleans East and then on Nov. 8 in the Lower Ninth Ward. The public review period closed at midnight on Nov. 13; we expect to have a decision of record later this month.

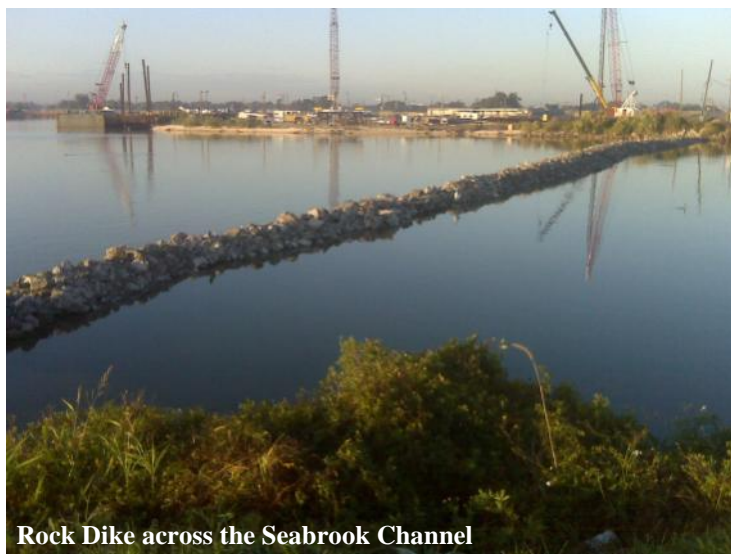
Times-Picayune [Industrial Canal plan outlined](#)

c. Seabrook Floodgate Complex \$155 M construction value

The rock dike, which will slow down the flows at the Seabrook Gate so that the existing scour hole can be filled, has been constructed. The fill for the scour hole is currently being placed and vibro compaction for the scour hole sand will begin this week.

Once the scour hold is filled, construction of the cofferdam across the channel will begin. We anticipate that two crews will move forward on this phase of construction in early December.

H-piles are being driven on the west wall; clearing and grubbing of the tie-in on the east side has been completed and installation of sheet pile will commence soon.



Rock Dike across the Seabrook Channel

7. Existing Pump Station Repairs (Main Supporting District - Chicago) \$80 M construction value

There are 73 non-federal pump stations in Orleans, Jefferson, St. Bernard and Plaquemines parishes. We have been involved in repairs to 61 of those pump stations. Work in Orleans Parish is complete and the final transfer to the New Orleans Sewerage and Water Board is pending. The overall Pump Station Repair Program is approximately 99 percent complete.

8. Storm Proofing (Main Supporting District - Chicago) \$225 M construction value

We continue work on wrapping up the storm proofing program in Jefferson Parish (15 projects): one is in project development, two are in design, one is in preconstruction, eight are under construction and three are complete.

Storm proofing also continues in Orleans Parish (18 projects): eight are pending, one is in design, two are in the proposal / bidding stage, five are under construction and two are complete. The overall Storm Proofing Program is approximately 38 percent complete.

Our goal is to have all scheduled storm proofing complete in 2011.



Pile Stack at Orleans Pump Station

9. Permanent Canal Closures & Pumps (Main Supporting District - Portland)

\$695 M construction value

The Request for Proposal (RFP) Phase II proposals were received on Nov. 15. Evaluation of those proposals began this week and will conclude on Dec. 21. Oral presentations are scheduled from Jan. 17 - 21 of next year. We remain on schedule to award the design-build contract in April 2011.

10. Outfall Canals \$25 - \$50 M construction value

The construction of the Interim Closure Structures and temporary pump stations effectively removed the outfall canal walls as part of the primary hurricane storm surge system. Since construction of the walls along the three canals in the mid-1990s, they have performed well in removing rainwater from the city, including the record rainfall events in May 1995 and December 2009. Since 2005, \$35.6 million in repairs and improvements were made to the London Avenue Canal and \$25.7 million in repairs and improvements were made to the 17th Street Canal.

The decision of record for strengthening seven miles of floodwall along the 17th Street, Orleans Avenue and London Avenue canals was signed on Oct. 7. The work is necessary to reduce seepage and increase stability, as well as to ensure that the canal walls can support the requirements of the Sewerage and Water Board of New Orleans in removing rain water from the city. All remediation work will be conducted within the existing right of way. The final [report](#) is available online at NOLA Environmental.

Along the 17th Street Canal, the contractor will use deep soil mixing to strengthen the canal levees and add embankment at the crown of the levee to reduce floodwall stick-up. Along the Orleans Avenue Canal, the contractor will use deep soil mixing and stability berms to strengthen the canal levees. Along the London Avenue Canal, the contractor will drive sheetpile to prevent seepage, as well as add embankment at the crown of the levee to reduce floodwall stick-up. Construction will begin by the end of this year and be complete by June 2011.

Times-Picayune [Remedial work set on 3 big canals in New Orleans](#)

Times-Picayune [Lowering New Orleans floodwalls could improve canal safety, engineers say](#)

Last month, we attended the Metairie Club Gardens Association meeting to provide an update on the status of work along the outfall canals with an emphasis on 17th Street.

Times-Picayune [Meeting set as drainage dispute rages on](#)

11. Lake Pontchartrain Coastal Zone (Basin) Coastal Protection & Restoration



Planning is under way to create marsh and re-establish cypress forests in the Lake Pontchartrain Coastal Zone (Basin) to mitigate for construction of the Hurricane & Storm Damage Risk Reduction System.

[Mississippi River Gulf Outlet Video](#)

Times-Picayune [Corps plan protects land bridge](#)

Robert A. Sinkler
Colonel, U.S. Army Corps of Engineers
Commander, Hurricane Protection Office
Mississippi Valley Division

Recent Visitors to East Bank Construction Sites



MG William Grisoli (center), Deputy Commanding General of the US Army Corps of Engineers, visits the IHNC Surge Barrier



American Wetlands Foundation visits LPV 145 in St. Bernard Parish



Department of Homeland Security and Federal Emergency Management Agency visit LPV 145 in St. Bernard Parish



American Railcar visits LPV 145 in St. Bernard Parish



Parish President Craig Taffaro and other members of the St. Bernard Parish government visit LPV 145



Members of the Department of State International Leadership Program visit LPV 145 in St. Bernard Parish

Recent Visitors to East Bank Construction Sites



AmeriCorps volunteers visit LPV 145 in St. Bernard Parish



Japanese travel writers visit LPV 145 in St. Bernard Parish



Local church pastors and volunteers visit LPV 145 in St. Bernard Parish



Participants in the College of International Security Affairs visit LPV 145 and the IHNC Surge Barrier Tie-in



New Orleans East and St. Bernard Parish neighborhood associations visit LPV 145 in St. Bernard Parish



Pakistan Water Management officials visit the IHNC Surge Barrier

Recent Visitors to East Bank Construction Sites



Notre Dame University engineering students visit LPV 145 in St. Bernard Parish



Guests of the Southeast Louisiana Flood Protection Authority-East visit the IHNC Surge Barrier



St. Bernard Parish business owners and residents visit the LPV 145 and the IHNC Surge Barrier Tie-in



Illinois Deans of Colleges and Universities visit LPV 145 in St. Bernard Parish



Western Dredging Association visits the IHNC Surge Barrier



Society of American Military Engineers Executive Forum 2010 visits the IHNC Surge Barrier

Recent Visitors to East Bank Construction Sites



New Orleans City Councilman Jon Johnson visits the IHNC Surge Barrier



Tulane Law School students visit the IHNC Surge Barrier



Command Sergeant Major of the US Army Corps of Engineers, Michael Buxbaum, visits LPV 145 in St. Bernard Parish



URS Board of Directors visits LPV 146 in St. Bernard Parish



International Right of Way Association Relocation Committee visits the IHNC Surge Barrier



Citizens for 1 Greater New Orleans visit the IHNC Surge Barrier

Recent Visitors to East Bank Construction Sites



New Orleans District - Engineering Division visits LPV 145 in St. Bernard Parish



Mississippi Valley Division Commander MG Michael Walsh at the IHNC Surge Barrier



Naval Mobile Construction Battalion 133 (Navy Seabees) visits LPV 145 in St. Bernard



USACE Regional Asset Management Group visits the IHNC Surge Barrier



New Orleans District - Real Estate Division visits the IHNC Surge Barrier



New Orleans District - Protection and Restoration Office visits LPV 145 in St. Bernard

Recent Visitors to East Bank Construction Sites



New Orleans residents visit the IHNC Surge Barrier and LPV 145 in St. Bernard Parish



U.S. Army Corps of Engineers IHNC Team families visit the IHNC Surge Barrier



Dr. Sandra Knight, SES and Federal Emergency Management Agency executives visit LPV 145 in St. Bernard Parish



Louisiana State Senator Cynthia Willard-Lewis visits the IHNC Surge Barrier



Jefferson Parish and Southeast Louisiana Flood Protection Authority leaders visit Lake Pontchartrain & Vicinity projects



Louisiana State Senator Cynthia Willard-Lewis and guests visit the IHNC Surge Barrier